The Backward Look

Isaac Asimov

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"The Backward Look" was purchased by George Scithers, and appeared in the September 1979 issue of Asimov's, *with an interior illustration by Jack Gaughan*.

A good case could be made for the proposition that the late Isaac Asimov was the most famous SF writer of the last half of the twentieth century. He was the author of almost five hundred books, including some of the best-known novels in the genre (I, Robot *and the* Foundation *trilogy, for example); his last several novels kept him solidly on the nationwide bestseller lists throughout the 80s; he won two Nebulas and two Hugos, plus the prestigious Grandmaster Nebula; he wrote an enormous number of nonfiction books on a bewilderingly large range of topics, everything from the Bible to Shakespeare, and his many books on scientific matters made him perhaps the best-known scientific popularizer of our time; his nonfiction articles appeared everywhere from* Omni *to* TV Guide; *he was one of the most sought-after speakers in the country, and appeared on most of the late-night and afternoon talk shows of his day, and even did television commercials-and he was also the only SF writer famous enough to have had an SFmagazine named after him*, Asimov's Science Fiction *magazine. A mere sampling ofAsimov's other books, even restricting ourselves to science fiction alone, would include* The Stars Like Dust, The Currents of Space, The Gods Themselves, Foundation's Edge, The Robots of Dawn, Robots and Empire, Foundation's Earth, *and two expansions of famous Asimov short stories into novel form*, The Ugly Little Boy *and* Nightfall, *written in collaboration with Robert Silverberg. His most recent fiction titles include the novel* Forward the Foundation, *and the posthumous collections* Gold *and* Fantasy.

Asimov was almost as well-known in the mystery field as he was in SF, for novels such as Murder at the ABA *as well as for the long-running series of stories about that club of suave amateur investigators, The Black Widowers. He was also one of the most successful practitioners of the art of blending SF and mystery, with his series of stories about SF armchair detective Wendell Urth, as well as what are perhaps still the two most successful hybrid SF/mys-tery novels ever written*, The Caves of Steel *and* The Naked Sun, *featuring the robot detective R. Daneel Olivaw*.

Here he shows us once again the truth of that old saying, Don't look back-you don't know what may be gaining on you…

If Emmanuel Rubin knew how not to be didactic, he never exercised that knowledge.

"When you write a short story," he said, "you had better know the ending first. The end of a story is only the end to a reader. To a writer, it's the beginning. If you don't know exactly where you're going every minute that you're writing, you'll never get there-or anywhere."

Thomas Trumbull's young guest at this particular monthly banquet of the Black Widowers seemed all eyes as he watched Rubin's straggly gray beard quiver and his thick-lensed glasses glint; and all ears as he listened to Rubin's firm, de-cibelic voice.

The guest himself was clearly in the early twenties, quite thin, with a somewhat bulging forehead and a rather diminutive chin. His clothing almost glistened in its freshness, as though he had broken out a brand-new costume for the great occasion. His name was Milton Peterborough.

He said, a small quiver in his voice, "Does that mean you have to write an outline, Mr. Rubin?"

"No," said Rubin, emphatically. "You can if you want to, but I never do. You don't have to know the exact road you're going to take. You have to know your destination, that's all. Once that's the case, any road will take you there. As you write you are continually looking backward from that known destination, and it's that backward look that guides you."

Mario Gonzalo, who was quickly and carefully drawing a caricature of the guest, making his eyes incredibly large and filling them with a childlike innocence, said, "Come on, Manny, that sort of tight plotting might fit your cockamamie mysteries, but a real writer deals with character, doesn't he? He creates *people;* and they behave in accordance with their characters; and that guides the story, probably to the surprise of the author."

Rubin turned slowly and said, "If you're talking about long, invertebrate novels, Mario-assuming you're talking about anything at all-it's possible for an experienced or gifted writer to meander along and produce something passable. But you can always tell the I-don't-know-where-I'm-going-but-I'm-going book. Even if you forgive it its amorphous character for the sake of its virtues, you have to *forgive* it, and that's a strain and a drawback. A tightly-plotted story with everything fitting together neatly is, on the other hand, the noblest work of literature. It may be bad, but it never need ask forgiveness. The backward look-"

At the other end of the room, Geoffrey Avalon glanced with resignation at Rubin and said, "I think it was a mistake, Tom, to tell Manny at the start that the young man was an aspiring writer. It brings out the worst in him, or-at any rate-the longest winded." He

stirred the ice in his drink with his forefinger and brought his dark eyebrows together forbiddingly.

"Actually," said Thomas Trumbull, his lined face uncharacteristically placid, ' 'the kid wanted to meet Manny. He admired his stories, God knows why. Well, he's the son of a friend of mine and a nice youngster and I thought I'd expose him to the seamy side of life by bringing him here."

Avalon said, "It won't hurt us to be exposed to youth now and then, either. But I hate being exposed to Rubin's theories of literature.- Henry."

The quiet and smoothly efficient waiter, who served at all the Black Widowers' banquets, was at his side at once without seeming to have moved in order to have achieved that. ' 'Yes, sir?"

"Henry," said Avalon, "what are these strange manifestations?' '

Henry said, "Tonight we will have a buffet dinner. The chef has prepared a variety of Indian and Pakistani dishes."

"With curry?"

"Rather heavy on the curry, sir. It was Mr. Trumbull's special request."

Trumbull flared under Avalon's accusing eye. "I wanted curry and I'm the host."

"And Manny won't eat it and will be unbearable."

Trumbull shrugged.

Rubin was not entirely unbearable but he was loud, and only Roger Halsted seemed unaffected by the Rubinian tirade against all things Indian. He said, "A buffet is a good idea," patted his lips with his napkin and went back for a third help-ing of everything, with a beatific smile on his face.

Trumbull said, "Roger, if you don't stop eating, we'll start the grilling session over your chewing."

"Go ahead," said Halsted, cheerfully. "I don't mind."

"You will later tonight," said Rubin, "when your stomach-wall burns through."

Trumbull said, "And you're going to start the grilling."

"If you don't mind my talking with my mouth full," said Halsted.

"Get started, then."

Halsted said thickly, "How do you justify your existence, Milton?"

"I can't," said Peterborough, a little breathlessly. "Maybe after I get my degrees."

"What's your school and major?"

"Columbia and chemistry."

"Chemistry?" said Halsted. "I would have thought it was English. Didn't I gather during the cocktail hour that you were an aspiring writer?"

"Anyone is allowed to be an aspiring writer," said Peterborough.

"Aspiring," said Rubin, darkly.

"And what do you want to write?" said Halsted.

Peterborough hesitated and said, with a trace of defensive-ness in his voice, "Well, I've always been a science fiction fan. Since I was nine, anyway."

"Oh, God," muttered Rubin, his eyes rolling upward in mute appeal.

Gonzalo said instantly, "Science fiction? That's what your friend Isaac Asimov writes, isn't it, Manny?"

"He's not my friend," said Rubin. "He clings to me out of helpless admiration."

Trumbull raised his voice. "Will you two stop having a private conversation? Go on, Roger."

"Have you written any science fiction?"

"I've tried, but I haven't submitted anything. I'm going to, though. I have to."

"Why do you have to?"

"I made a bet."

"What kind?"

"Well," said Peterborough, helplessly. "It's rather complicated-and embarrassing."

"We don't mind the complications," said Halsted, "and we'll try not to be embarrassed."

"Well," said Peterborough, and there appeared on his face something that had not been seen at the Black Widowers banquets for years, a richly tinted blush, "there's this girl. I'm sort of era-I like her, but I don't think she likes me, but I like her anyway. The trouble is she goes for a basketball player; a real idiot-six foot five to his eyebrows and nothing above."

Peterborough shook his head and continued, "I don't have much going for me. I can't impress her with chemistry; but she's an English Lit major, so I showed her some of my stories. She asked me if I had ever sold anything, and I said no. But then I said I intended to write something and sell it, and she laughed.

"That bothered me, and I thought of something. It seems that Lester del Rey-"

Rubin interposed. "Who?"

"Lester del Rey. He's a science fiction writer."

"Another one of those?" said Rubin. "Never heard of him."

"Well, he's no Asimov," admitted Peterborough, "but he's all right. Anyway, the way he got started was once when he read a science fiction story and thought it was terrible. He said to his girl, 'Hell, I can write something better than that,' and she said, 'I dare you,' and he did

and sold it.

"So when this girl laughed, I said, 'I'll bet I write one and sell it,' and she said, 'I'll bet you don't,' and I said, 'I'll bet you a date against five dollars. If I sell the story, you go with me to a dinner and dance on a night of my choosing.' And she agreed.

"So I've just *got* to write the story now, because she said she'd go out with me if I wrote the story and she liked it, even if it didn't sell-which may mean she likes me more than I think."

James Drake, who had been listening thoughtfully, brushed his gray stub of a mustache with one finger and said, "Or that she's quite confident that you won't even write the story."

"I *will*," said Peterborough.

"Then go ahead," said Rubin.

"There's a catch. I can write the story, I know. I've got some good stuff. I even know the ending so I can give it that backward look you mentioned, Mr. Rubin. What I don't have is a motive."

"A motive?" said Rubin. "I thought you were writing a science fiction story."

"Yes, Mr. Rubin, but it's a science fiction mystery, and I need a motive. I have the modus operandi of the killing, and the way of killing but I don't know the *why* of the killing. I thought, though, if I came here, I could discuss it with you."

"You could *what*?" said Rubin, lifting his head.

"Especially you, Mr. Rubin. I've read your mystery stories-I don't read science fiction exclusively-and I think they're great. You're always so good with motivation. I thought you could help me out."

Rubin was breathing hard and gave every appearance of believing that that breath was flame. He had made his dinner very much out of rice and salad, plus, out of sheer famishing, two helpings of *coupe aux marrons;* and he was in no mood for even such sweet reason as he was, on occasion, observed to possess.

He said, "Let me get it straight, Joe College. You've made a bet. You're going to get a chance at a girl, or such chance as you can make of it, by writing a story she likes and maybe selling it-and now you want to win the bet and cheat the girl by having me write the story for you. Is that the way it is?"

"No, sir," said Peterborough, urgently, "that's *not* the way it is. I'll write it. I just want help with the motive."

"And except for that, you'll write it," said Rubin. "How about having me dictate the story to you. You can still *write* it. You can copy it out in your own handwriting."

"That's not the same at all."

' 'Yes, it is, young man; and you can stop right there. Either write the story yourself or tell the girl you can't."

Milton Peterborough looked about helplessly.

Trumbull said, ' 'Damn it, Manny, why so much on the high horse? I've heard you say a million times that ideas are a dime a dozen; that it's the *writing* that's hard. Give him an idea, then; he'll still have the hard part to do."

"I won't," said Rubin, pushing himself away from the table and crossing his arms. "If the rest of you have an atrophied sense of ethics, go ahead and give him ideas-if you know how."

Trumbull said, "All right, I can settle this by fiat since I'm the host, but I'll throw it open to a vote. How many favor helping the kid if we can?"

He held up his hand, and so did Gonzalo and Drake.

Avalon cleared his throat a little uncertainly. "I'm afraid I've got to side with Manny. It would be cheating the girl," he said.

Halsted said, "As a teacher, I've got to disapprove of outside help on a test."

"Tie vote," said Rubin. "What are you going to do, Tom?"

Trumbull said, "We haven't all voted. Henry is a Black Widower and his vote will break the tie.-Henry?"

Henry paused a brief moment. "My honorary position, sir, scarcely gives me the right to-"

"You are not an honorary Black Widower, Henry. You are a Black Widower. Decide!"

Rubin said, "Remember, Henry, you are the epitome of honest men. Where do you stand on cheating a girl?"

"No electioneering," said Trumbull. "Go ahead, Henry."

Henry's face wrinkled into a rare frown. "I have never laid claim to extraordinary honesty, but if I did, I might treat this as a special case. Juliet told Romeo, 'At lovers' perjuries/They say Jove laughs.' Might we stretch a point?"

"I'm surprised, Henry," said Rubin.

Henry said, ' 'I am perhaps swayed by the fact that I do not view this matter as lying between the young man and the young woman. Rather it lies between a bookish young man and an athlete. We are all bookish men; and, in our time, we may each have lost a young woman to an athlete. I am embarrassed to say that I have. Surely, then-"

Rubin said, "Well, I haven't. I've never lost a girl to-" He paused a moment in sudden thought, then said in an altered tone, "Well, it's irrelevant. All right, if I'm outvoted, I'm outvoted.-So what's the story, Peterborough?"

Peterborough's face was flushed and there was a trickle of perspiration at one temple. He said, "I won't tell you any of the story I've been planning except the barest essentials of the point I need help on. I don't want anything more than the minimum. I wouldn't want

that, even, if this didn't mean- so much-" He ran down.

Rubin said, with surprising quietness, "Go on. Don't worry about it. We understand."

Peterborough said, "Thanks. I appreciate it. I've got two men, call them Murderer and Victim. I've worked out the way Murderer does it and how he gets caught and I won't say a word about that. Murderer and Victim are both eclipse buffs."

Avalon interrupted. "Are you an eclipse buff, Mr. Peterborough?"

"Yes, sir, I am. I have friends who go to every eclipse anywhere in the world even if it's only a five-percenter, but I can't afford that and don't have the time. I go to those I can reach. I've got a telescope and photographic equipment."

Avalon said, "Good! It helps, when one is going to talk about eclipses, if one knows something about them. Trying to write on a subject concerning which one is ignorant is a sure prescription for failure."

Gonzalo said, "Is the woman you're interested in an eclipse buff."

"No," said Peterborough. "I wish she were."

"You know," said Gonzalo, "if she doesn't share your interests, you might try finding someone who does."

Peterborough shook his head. "I don't think it works that way, Mr. Gonzalo."

"It sure doesn't," said Trumbull. "Shut up, Mario, and let him talk."

Peterborough said, "Murderer and Victim are both taking eclipse photographs; and, against all expectations, Victim, who is the underdog, the born loser, takes the better photograph; and Murderer, unable to endure this, decides to kill Victim. From there on, I have no trouble."

Rubin said, "Then you have your motive. What's your problem?"

"The trouble is-what *kind* of a better photograph? An eclipse photograph is an eclipse photograph. Some are better than others; but, assuming that both photographers are competent, not *that* much better. Not a murder's-worth better."

Rubin shrugged. "You can build the story in such a way as to make even a small difference murder-worthy-but I admit that would take an experienced hand. Drop the eclipse. Try something else."

"I can't. The whole business of the murder, the weapon and the detection depends on photography and eclipses. So it has to stay."

Drake said softly, "What makes it a science fiction story, young man?"

"I haven't explained that, have I?-I'm trying to tell as little as possible about the story. For what I'm doing, I need advanced computers and science fictional photographic gimmickry. One of the two characters-I'm not sure which- takes a photograph of the eclipse

from a stratospheric jet."

"In that case, why not go whole hog?" said Gonzalo. "If it's going to go science-fictional… Look, let me tell you how I see it. Murderer and Victim are eclipse buffs and Murderer is the better man-so make it Murderer who's on that plane, and taking the best eclipse photograph ever seen, using some new photographic gimmick he's invented. Then have Victim, against all expectation, beat him out. Victim goes to the Moon and takes the eclipse photograph there. Murderer is furious at being beaten, goes blind with rage and there you are."

Rubin said energetically, "An eclipse photo on the *Moon*?"

"Why not?" said Gonzalo, offended. "We can get to the Moon right now so we can certainly do it in a science fiction story. And there's a vacuum on the Moon, right? There's no air. You don't have to be a scientist to know that. And you get a better picture without air. You get a sharper picture. Isn't that right, Milton?"

Peterborough said, "Yes, but-"

Rubin overrode him. "Mario," he said, "listen carefully. An eclipse of the Sun takes place when the Moon gets exactly between the Sun and the Earth. Observers on Earth then see the Sun blacked out because the opaque body of the Moon is squarely in front of it. We on Earth are in the Moon's shadow. Now if you're *on* the Moon," his voice grew harsh, "how the Hell can you be in the Moon's shadow?"

Avalon said, "Not so fast, Manny; an eclipse is an eclipse is an eclipse. There is such a thing as a Lunar eclipse, when the Earth gets between the Sun and the Moon. The Moon is in the Earth's shadow in that case and the whole Moon gets dark.

"The way I see it, then, is that Murderer takes a beautiful photograph of an eclipse on Earth, with the Moon moving in front of the Sun. He has advanced equipment that he has invented himself so that no one can possibly take a better photo of the moon in front of the Sun. Victim, however, goes him one better by taking an even more impressive photograph of an eclipse on the Moon, where, as Mario says, there is no air, with the *Earth* moving in front of the Sun."

Peterborough mumbled, "Not the same thing."

"It sure isn't," said Halsted, who had pushed his coffee cup to one side and was doing some quick figuring. "As seen from Earth, the Moon and the Sun have the same apparent width, almost exactly. Pure coincidence, of course; no astronomical necessity at all. In fact, eons past, the Moon was closer and appeared larger, and eons future, the Moon will be-Well, never mind. The fact is that the Earth is larger than the Moon, and from the Moon you see the Earth at the same distance that you see the Moon when you're standing on Earth. The Earth in the Moon's sky is therefore as much larger than the Moon in appearance as it is in actuality. Do you get that?"

"No," said Gonzalo, flatly.

Halsted looked annoyed. "Well, then, don't get it. Take my word for it. The Earth in the Moon's sky is about 3% as wide in appearance as the Moon is in Earth's sky. That means the Earth in the Moon's sky is also that much bigger than the Sun, because the Sun looks just the same from the Moon as from the Earth."

"So what's the difference?" said Gonzalo. "If the Earth is bigger, it gets in the way of the Sun that much better."

"No," said Halsted. "The whole point about the eclipse is that the Moon just fits over the Sun. It hides the bright circle of the gleaming Sun and allows its corona-that is, its upper atmosphere-to shine all about the hidden Sun. The corona gleams out in every direction with the light of the full Moon and does so in beautifully delicate curves and streamers.

"On the other hand, if you get a large body like the Earth in front of the Sun, it covers up the shining sphere and the corona as well. You don't see anything."

Avalon said, "That's assuming the Earth goes squarely in front of the Sun. When you see the eclipse before or after midpoint, at least part of the corona will stick beyond the Earth's sphere."

Peterborough said, "Part isn't the whole. It wouldn't be the same thing."

There was a short silence; and then Drake said, "I hope you don't mind if a fellow-chemist tries his hand at this, young man. I'm trying to picture the Earth in the sky, getting in the way of the Sun. And if we do that, then there's this to consider: the Earth has an atmosphere and the Moon has not.

"When the Moon moves in front of the Sun, as viewed from the Earth, the Moon's surface is sharp against the Sun. When the Earth moves in front of the Sun, as viewed from the Moon, the Earth's boundary is fuzzy and the Sun shines through Earth's atmosphere. Does that make a difference that you can use in the story?"

"Well," said Peterborough, "I've thought of that, actually. Even when the Sun is completely behind the Earth, its light is refracted through the Earth's atmosphere on every side, and a red-orange light penetrates it and reaches the Moon. It's as though the Moon can see a sunset all around the Earth. And that's not just theory. When there's a total eclipse of the Moon, you can usually see the Moon as a dull brick-red circle of light. It gleams in Earth's sunset atmosphere.

' 'As the eclipse, as viewed from the Moon, progresses, that side of the atmosphere that has just passed over the Sun is brighter, but grows gradually dimmer while the other side grows brighter. At eclipse mid-point, if you are viewing it from a part of the Moon which sees both Earth and Sun centered with respect to each other, the red-

orange ring is evenly bright all the way around-assuming there isn't too much in the way of clouds in Earth's atmosphere at the time."

Drake said, "Well, for God's sake, isn't that a sufficiently spectacular sight for Victim to photograph? The Earth would be a black hole in the sky, with a thin orange rim all around. It would be-"

"No, sir," said Peterborough. "It isn't the same thing. It's too dull. It would be just a red-orange ring. Once the photograph is taken the first time, that would be it. It wouldn't be like the infinitely varying corona."

Trumbull said, "Let *me* try! You want the corona visible all around, is that it, Milton?"

"Yes, sir."

"Stop me if I'm wrong, but in my reading, I've been given to understand that the sky is blue because light is scattered by the atmosphere. On the Moon, where there is no atmosphere, the sky is black. The stars, which on Earth are washed out by the scattered light of our blue sky, would not be washed out in the Moon's airless sky. They would be visible."

"Yes, though I suspect the Sun's glare would make them hard to see."

Trumbull said, "That's not important. All you would have to do is cut an opaque circle of metal and hold it up in the air at the proper distance from your photographic equipment in order to just block out the Sun's blazing disc. You can't do that on Earth, because even if you blocked out the Sun, the scattered light of the sky obscures the corona. On the Moon, there's no scattered light in the sky and the corona would shine out."

Peterborough said, "In theory, that's possible. In fact, it can even be done on Earth on mountain tops, making use of a coronagraph. It still wouldn't be the real thing, though, for it's not just a matter of light scattered by the atmosphere. There's light scattered and reflected by the ground.

' 'The Lunar surface would be very brightly lit up and light would be coming in from every angle. The photographs you would take would not be good ones. You see, the reason the Moon does the good job it does here on Earth is that its shadow doesn't just fall on the telescope and camera. It falls on all the surrounding landscape. The shadow of the Moon can, under ideal conditions, be 160 miles wide and cover 21,000 square miles of the Earth's surface. Usually, it's considerably smaller than that; but generally it's enough to cover the immediate landscape-that is, if it happens to be a total eclipse."

Trumbull said, "A bigger opaque object, then-"

"It would have to be quite big and quite far away," said Peterborough, "to achieve the effect. That would be too cumbersome."

Halsted said, "Wait, I think I have it. You would need something big for the purpose, all right. Suppose there were spherical space settlements in the Moon's orbit. If Victim is in a spaceship and gets the space settlement between himself and the Sun, that would be exactly what he wants. He could arrange to be close enough to have the shadow-which, of course, is conical and narrows to a point if you get far enough away-to be just thick enough to enclose his entire ship. There would be no world-surface to reflect light, and there you are."

Peterborough said, uneasily, "I hadn't thought of that. It's possible."

Halsted grinned, and a flush of pleasure mounted to the hairline he had once had. "That's it, then."

Peterborough said, "I don't want to be troublesome, but- but if we introduce the space motif, it's going to create some problems in the rest of the story. It's sort of important that everything stay on or near the Earth and yet that there be something so startling and unexpected that it would-"

He paused and Rubin completed the sentence for him, "So startling and unexpected that it would drive Murderer to rage and vengeance."

"Yes."

"Well," said Rubin, "since I'm the master of mystery here, I think I can work it out for you without leaving Earth very far behind, just as soon as I get some points straightened out.-You said that Murderer is taking the photographs from a plane. Why?"

"Oh. That's because the Moon's shadow, when it falls on Earth, moves quickly-up to 1440 miles an hour or about 0.4 miles a second. If you're standing in one place on Earth, the longest possible duration of a total eclipse is seven minutes and then the shadow has moved beyond you. That's when the Earth is as deep into the Moon's shadow as it ever gets. When the Earth isn't as deep in and is nearer the final point of the shadow, the total eclipse may last only a couple of minutes, or even only a few seconds. In fact, more than half the time, the Moon's shadow during an eclipse doesn't reach the

Earth's surface at all; and when the Moon is squarely in front of the Sun, the Sun overlaps it on all sides. That's an 'annular eclipse' and enough sunlight then slips past the Moon to wash out everything. An annular eclipse is no good at all."

"But in the airplane?" prompted Rubin.

"In an airplane, you can race along with the shadow and make the total eclipse last for an hour or more even if it would only endure a very short time on one position on Earth. You have a great deal more time to take photographs and make scientific observations. That's not science-fictional; it's done right now."

"Can you take very good pictures from the plane?" asked Rubin. "Does it allow a steady enough basis for photography?"

"In my story," said Peterborough, "I've got a computer guiding the plane, allowing for wind movements, and keeping it perfectly steady. That's one of the places where the science fiction comes in."

"Still, the Moon's shadow eventually leaves the Earth's surface altogether, doesn't it?"

"Yes, the eclipse track covers a fixed portion of the Earth's surface, and it has an overall starting point and an overall ending point."

"Exactly," said Rubin. "Now Murderer is confident that his photographs taken from the stratosphere are going to include the best views of an eclipse ever seen, but he doesn't count on Victim's having a spaceship. Don't worry, there's no need to leave Earth very far. It's just that the spaceship follows the Moon's shadow *after* it leaves the Earth. Victim has a still longer chance to take photographs, a steadier base, and no atmospheric interference whatever. Murderer is hoist on his own petard for he sees that poor simp, Victim, do exactly what he does but go him one better. He snaps and becomes a killer."

Gonzalo waved both arms in the air in excitement. "Wait! Wait! We can do even better than that. Listen, what about that annular eclipse you mentioned a while ago? You said the shadow doesn't reach the Earth."

"It doesn't reach the surface. That's right."

"How high off the surface is it?"

"That depends. Under extreme conditions, the end point of the shadow could miss the Earth by hundreds of miles."

"Yes," said Gonzalo, "but could that end point miss Earth by, say, *ten* miles?"

"Oh, sure."

"Would it still be annular, and no good?"

"That's right," said Peterborough. "The Moon would come just barely short of covering the Sun. There would be just the thinnest sliver of Sun around the Moon, and that would give enough light to spoil things. If you took photographs, you'd miss the prominences, the flares, and the corona."

"But what if you went ten miles up into the atmosphere?" said Gonzalo. "Then you'd see it total, wouldn't you?"

"If you were in the right spot, yes."

"There it is, then. One of those annular eclipses comes along, and Murderer thinks he'll pull a fast one. He gets into his stratoplane, goes ten miles up to get into the point of the shadow or just over it, and follows it along. He's going to make a total eclipse out of an annular one-and Victim, the usual loser, does the same thing, except he uses a spaceship and follows it out into space and gets better pictures. What

can get old Murderer more torn up than having him play his ace-and getting trumped."

Avalon nodded his head. "Good, Mario. That *is* an improvement."

Rubin looked as if he had unexpectedly bitten into a lemon. "I hate to say it, Mario-"

"You don't have to say it, Manny," said Gonzalo. "I see it all over you.-There you are, kid. Write the story."

Peterborough said, with a sigh, "Yes, I suppose that is the best that can be done."

"You don't sound overjoyed," said Gonzalo.

"I was hoping for something more-uh-outrageous, but I don't think it exists. If none of you could think up anything-"

"May I interrupt, sir?" said Henry.

"Huh? Oh-no, I don't want any more coffee, waiter," said Peterborough, absently.

"No, sir. I mean, concerning the eclipse."

Trumbull said, "Henry's a member of the club, Martin. He broke the tie on the matter of the discussion. Remember?"

Peterborough put a hand to his forehead. "Oh, sure. Ask away-uh-Henry."

"Actually, sir, would the photographs be that much better in a vacuum than in the thin air of the stratosphere? Would the difference in quality be enough to result in murder, unless Murderer was a close approach to a homicidal maniac?"

"That's the thing," said Peterborough, nodding. "That's what bothers me. That's why I keep saying I need a motive. These differences in quality of photos aren't big enough."

"Let us consider, then," said Henry, "Mr. Rubin's dictum that in telling a story one should look backward."

"I know the ending," said Peterborough. "I have the backward look."

"I mean it in another sense-that of deliberately looking in the other direction, the unaccustomed direction. In an eclipse, we always look at the Moon-just the Moon in a Lunar eclipse, and the Moon covering the Sun in a Solar eclipse-and that's what we take photographs of. What if we take a backward look at the Earth?"

"What's to see on Earth, Henry?" asked Gonzalo.

"When the Moon moves into the Earth's shadow, it is always in the full phase and it is usually completely darkened. What happens to the Earth when it moves into the Moon's shadow? It certainly doesn't darken completely."

"No," said Peterborough emphatically. "The Moon's shadow is thinner and shorter than the Earth's, and the Earth itself is larger than the Moon. Even when Earth passes as deeply as it can into the Moon's

shadow, only a tiny bit of the Earth is darkened, a little dot of darkness that makes up, at most, about 1/600 of the Earth's circle of light."

' 'Could you see it from the Moon?" asked Henry.

"If you knew where to look and especially if you had a good pair of binoculars. You would see it start small, move west to east across the face of the Earth, getting bigger, then smaller, and then vanish. Interesting, but certainly not spectacular."

"Not from the Moon, sir," said Henry. "Now suppose we reverse the positions of the characters. It is Victim who has the airplane and who can get a photograph from the stratosphere. It is Murderer who intends to trump his opponent's ace by taking a better photograph from space-a marginally better photograph. Suppose, though, that Victim, against all expectations, from his airplane over-trumps Murderer in his spaceship."

Avalon said, "How can he do that, Henry?"

"Victim, in his plane, suddenly realizes he needn't look at the Moon. He looks backward at the ground and sees the Moon's shadow, racing toward him. The Moon's shadow is just a dark dot when seen from the Moon; it's just the coming of temporary night as seen from the Earth's surface-but from a plane in the stratosphere, it is a racing circle of darkness moving at 1440 miles an hour, swallowing up the land and sea-and clouds, for that matter-as it goes. The plane can move ahead of it, and it is no longer necessary to take single snapshots. A movie camera can produce the most dramatic film. In this way, Murderer, having fully expected to outdo Victim, finds that Victim has captured world attention even though he had only an airplane to Murderer's spaceship."

Gonzalo broke into loud applause, and Trumbull said, "Right on!" Even Rubin smiled and nodded.

As for Peterborough, he fired up at once saying, "Sure! And the approaching shadow would have a thin red rim, for at the moment the shadow overtakes you, the red prominences cast their light unmasked by the Sun's white light. That's it, Henry! The backward look does it!-If I write this one properly, I don't care even if it doesn't sell.-I won't care even" (his voice shook) "if-uh-*she* doesn't like it and doesn't go out with me. The story is more important!"

Henry smiled gently and said, "I'm glad to hear that, sir. A writer should always have a proper sense of priorities."